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Renneboog, L.D.R.; Spaenjers, C.

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By Luc Renneboog, Christophe Spaenjers

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THE ROLE OF RELIGION IN HOUSEHOLD FINANCE

Luc Renneboog[*] and Christophe Spaenjers[**]

Abstract

Although the relationship between religion and economic development on the macro-level has been investigated, it is less clear how religious background influences economic attitudes and financial decision-making on the level of the individual or household, the micro-level. We use panel data from the extensive DNB Household Survey, covering the period from 1995 to 2008, to investigate whether – and through which channel – religious denomination affects household finance in the Netherlands. We find evidence that, in general, religious households care more about saving, are more risk-averse, consider themselves more trusting, have a more external locus of control, and have a stronger bequest motive. Furthermore, Catholics and Protestants have longer planning horizons, and Protestants and Evangelicals seem to have a greater sense of individual financial responsibility. Most of these factors matter for household financial decision-making, albeit to differing degrees. Using our religion variables as instruments for economic attitudes (and controlling for demographic and background risk characteristics), we demonstrate that the above-mentioned differences in economic beliefs and preferences explain the higher propensity to save by religious households in general and the lower investments in risky assets by Catholic households.

JEL classification: A1, D1, Z1.

Keywords: Economic Attitudes; Culture; Religion; Household finance; Portfolio choice; Trust.

[*] Department of Finance, CentER, Tilburg University, P.O.Box 90153, 5000 LE Tilburg, the Netherlands. Tel: +31 13 466 3025. Fax: +31 13 466 2875. Email: Luc.Renneboog@uvt.nl

[**] Department of Finance, CentER, Tilburg University, P.O.Box 90153, 5000 LE Tilburg, the Netherlands. Tel: +31 13 466 8760. Fax: +31 13 466 2875. Email: C.Spaenjers@uvt.nl

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"*For fools rush in where angels fear to tread*
Distrustful sense with modest caution speaks"
[Alexander Pope, 'An Essay on Criticism', 1711]

1. Introduction

In the past, the relationship between religion and economics has been studied rather frequently – see Iannacone (1998) for an excellent introduction to the literature. One particular aspect that has received a lot of attention in recent years is the significance of religion as a macroeconomic force. For example, Barro and McCleary (2003) investigate how religion affects economic development. The authors come to the conclusion that growth is positively influenced by "believing" (for example, in heaven and hell), but responds negatively to the degree of "belonging" (church attendance) across countries. Building on Max Weber's famous claim that the Protestant work-and-save ethic led to a "spirit of capitalism" in Protestant regions,[1] Landes (1998) argues that religious differences can partially explain the differences in economic growth between nations. Blum and Dudley (2001) look into the relationship between religious beliefs and economic growth in early-modern Europe and conclude that Protestant cities constructed beneficial economic networks. Their model suggests that these networks may have been made possible by the high cost of contractual defection in Protestantism.[2] In a similar vein, Stulz and Williamson (2003) find that a country's religion predicts the degree of investor protection: Catholic countries have significantly weaker creditor rights than Protestant countries.

Although the importance of religion at the economic *macro* level has been established, it is still unclear in how far religion and religiosity drive people's financial decisions at the *micro* level. Although Iannaccone (1998) argued that "there may be no […] relationship between religion and economic attitudes", other research suggests that religion does have a significant effect on economically relevant beliefs and preferences such as thrift, trust, and the awareness of individual

[1] Weber's thesis has been the subject of fierce debates in the literature. Iannacone (1998) writes that "the most noteworthy feature of the Protestant ethic thesis is its absence of empirical support". A new paper by Becker and Woessmann (2009) provides an interesting alternative theory for the stronger growth in Protestant regions. The authors document Martin Luther's stress on the importance of education (so that everyone could read the Bible), and argue that it is the resulting higher literacy of Protestants that can explain historical differences in economic development. Arruñada (2009) rejects the work ethic hypothesis as well in favor of an alternative. He argues that is rather the Protestant "social ethic that favoured market transactions and market-enhancing institutions" that is relevant.

[2] The concept of predestination is important here. According to Blum and Dudley (2001), "any defection weakened the individual's conviction that he was predestined to be saved", especially among Calvinists.

responsibility (Guiso et al., 2003; Arruñada, 2009). Variation in these attitudes may directly impact the financial choices individuals make, i.e. household finance.[3]

Following the democratization of financial markets and the wave of product innovations in the consumer financial services sector during the 1990s, the analysis of household finance has become a fast-growing academic area (Guiso et al., 2002). It is well documented that both demographic variables (such as age, gender, family size, and education) and background risk factors (such as private business risk and health) are important determinants of households' portfolio decisions (Campbell, 2006).

Over the last few years, an expanding literature has explored less traditional explanations of household financial decision-making. Some authors have focused on the roles played by cognitive abilities and biases (Christelis et al., 2008; Stango and Zinman, 2008) and households' financial literacy (Van Rooij et al., 2007; Guiso and Jappelli, 2009). Not surprisingly, there has also been an increased attention to socio and cultural forces that may be at work. For example, Puri and Robinson (2007) investigate the role of optimism in making economic decisions. Hong et al. (2004) and Brown et al. (2008) study the impact of social interaction and peer effects on stock market participation. Guiso et al. (2008) look into the effects of general and personalized trust. Georgarakos and Pasini (2009) take into account both sociability and trust.

In this literature, religion and religiosity have only been mentioned in passing. Hong et al. (2004) use church attendance as a measure of social interaction, while Christelis et al. (2008) control for religious participation in their analysis. Guiso et al. (2008) note that a person's trust may well be influenced by his ethnic and religious background.

More research is clearly needed. Therefore, in this paper, we investigate whether religion has an impact on the savings and investment decisions of households. Moreover, we try to identify through which economic attitude religious background has its effect. To do so, we make use of the DNB Household Survey, formerly known as the CentER Savings Study. This survey collects detailed information on a (yearly updated) sample of about 2,000 Dutch households, by means of weekly questionnaires. We combine data on religion, demographic variables, wealth and income,

[3] Two recent papers look into the impact of religion on an intermediate level between the country and the individual. Hilary and Hui (2008) investigate how a firm's investment decisions are affected by the religiosity of its environment. Kumar et al. (2009) see religion as an instrument for gambling and relate geographical heterogeneity in religion to differences in a number of financial market outcomes (institutional investors' portfolio choices, employee stock option plans, IPO markets, and the pricing of stocks with lottery-type features). Both studies use data at the county level in the United States.

psychological and economic concepts, and portfolio decisions, all of which are included in this panel survey. In the past, the DNB Household Survey has been proven useful not only to study the general composition of household portfolios in the Netherlands (Alessie et al., 2002), but also the effects of financial literacy (Van Rooij et al., 2007) and trust (Guiso et al., 2008) on stock market participation.

Also for other reasons than the existence of a long-term large household survey, the Netherlands is the ideal place to examine the relationship between religion and individual decision-making: the country is characterized by considerable heterogeneity in religiosity. Moreover, the distinction between religious and non-religious people is not as blurred as in other European countries: the people in the Netherlands who consider themselves members of a religious denomination are usually true believers.

Subsequent to outlining the cultural and historical background, we will identify the economic values and attitudes that are relevant within the context of financial decision-making. We then undertake a reduced-form approach to investigate to which degree religious people make different financial decisions. As a last step, we try to establish a causal link between religion and household finance by tracing "the effect of culture through the economic channels it is supposed to affect" (Guiso et al., 2006).

We find clear evidence that the economic attitudes of religious households differ from those of non-religious ones. In the Netherlands, religious individuals (i) care significantly more about thrift, (ii) are somewhat more risk-averse, (iii) are more likely to consider themselves as trusting other people and the society, (iv) have a weaker internal locus of control (meaning that they believe that their life outcomes are not entirely determined by their own actions), and (v) have a stronger bequest motive (they care more about the inheritance of their children) than non-religious people. In general, these results hold for Catholics, Protestants, and Evangelicals, although there are clear differences in the magnitude of the effect. In addition, Catholics and Protestants have longer planning horizons, while Protestants and Evangelicals seem to have a slightly higher awareness of individual financial responsibility.

Controlling for a large number of demographic characteristics and background risk factors, we show that religious households are more inclined to save money than non-religious ones. Catholic households, and also Protestant ones (but to a lower degree), are less likely to invest in risky assets. In contrast, Evangelical households invest significantly more money in stocks and other risky financial asset classes. An instrumental variable set-up (in which economic attitudes are instrumented with religious background) shows that these differences in financial choices can largely be explained by the

different views on economic beliefs and preferences outlined above. For example, the higher emphasis on thrift, higher risk aversion, higher self-reported trust, stronger bequest motive, and longer planning horizon of religious households make them more likely to save. The lower probability of investing in risky assets found for Catholic households may result from the effects of religion on risk aversion, the bequest motive, and the planning horizon.

The remainder of this paper is structured as follows. Section 2 sketches the cultural background of our study. In Section 3, we give an overview of the economic attitudes through which religion may impact individual financial decision-making. Section 4 describes our data set, variables, and empirical strategy. Section 5 outlines the empirical results, while robustness tests are included in Section 6. Section 7 concludes and discusses some implications.

2. Cultural background

Since the 1950s, many theologians have argued that the impact of established religions on societies would decrease. In a secularized era, metaphysical issues were expected to be an entirely private matter. Hence, the weekly newspaper The Economist (1999) published an obituary of God at the end of the previous century, declaring that "after a long career, the Almighty has passed into history". However, eight years later, the same weekly had to admit that it had shown overconfidence in declaring God dead, and that religion still plays an important role in many societies (The Economist, 2007).

In contrast to some other regions where religious movements have not abandoned their political agendas, religiosity is mostly a personal matter in Europe. Across the European continent, the impact of religion on the individual is very heterogeneous. For instance, the Atlas of European Values (Halman et al., 2005) shows that in Poland, Ireland, Romania, Croatia, and Malta, more than 90 percent of the people celebrate their poignant moments of life in the church. In contrast, in the Czech Republic and the Netherlands, less than half of the population appreciates a religious service. Still, in most countries, pure atheists are a small minority, and there are more people who consider themselves religious than there are church-goers. This is the phenomenon of "believing without belonging".

The Netherlands is an interesting country to study the effect of religion on individual decision-making, for two different reasons. First, there is considerable variety in types of religious beliefs. As a consequence of the sixteenth-century religion-based wars between the Catholic Spanish rulers and

Protestants rebels, half of the Dutch population has traditionally been Protestant and half Catholic. Since the 1950s, however, the Netherlands have quickly turned into one of the most secularized countries in Europe. Nowadays, a small majority of the Dutch population is religious. The largest religious denomination is the Roman Catholic Church: almost 27% of the Dutch population is a member (WRR, 2006). Taken together, mainstream Protestant churches account for a bit less than 15% of the population.[4] Evangelicals (and Pentecostals), conservative Protestants who share a strong belief in a literal interpretation of the bible and the importance of rebirth, make up about 1%; and 2% has other non-Christian religious beliefs. Almost 6% of the Dutch population is Muslim. The other 49% of the population in the Netherlands does not formally belong to a specific denomination.

Second, the distinction between religious and non-religious individuals is probably easier to make in the Netherlands than in other countries. Generally, those who declare to belong to a specific religious denomination also practice (i.e. pray and/or go to church), whereas people who may have been raised within a religious tradition but do not believe and practice, do not consider themselves as religiously affiliated (Halman et al., 2005).[5]

3. Religion and economic attitudes

In this section, we identify individuals' economic beliefs and preferences that, according to previous research, seem influenced by the religious background. Where instructive, we also indicate how these attitudes may have an impact on financial decisions. Demographic variables (such as gender, education, and income) and background risks (such as health status[6] and (un)employment) are traits that may be correlated with both religion and portfolio decisions, and will therefore be used as control variables in our empirical analysis of Section 4. In this section, we mainly focus on Christian religions, since Catholics and Protestants are by far the largest religious groups in the Netherlands.

[4] This includes the Protestant Church in the Netherlands and two small groups of Reformed churches (WRR, 2006).
[5] Judging from the Atlas of European Values, this is not always the case in other countries. For instance, more than 55% of the German population consider themselves as religious persons but only about 33% prays regularly. Similarly, two thirds of the Belgian people state that they are religious but only one third prays. Almost 75% of the Danes regard themselves as religious, but merely 20% prays in a regular basis.
[6] For a recent analysis on how the health status of households influences their portfolio decisions, see Rosen and Wu (2007).

3.1. Thrift

As Keister (2003) notes, "religious doctrine seldom discourages saving and nearly always encourages correct and conventional living". It is thus not surprising that Guiso et al. (2003) find that religiosity is associated with a higher emphasis on the importance of saving. In their research, Catholics appear to value thrift more than Protestants, which somewhat contradicts the Weberian claim that it was mainly Protestant thriftiness that has stimulated the growth of capitalism.

3.2. Risk preferences

Previous research has shown that religiosity is in general positively correlated with risk aversion (Hilary and Hui, 2008; Miller and Hoffmann, 1995). There is less consensus about the differences in the effect between the denominations. Based on a univariate analysis, Barsky et al. (1997) report that Catholics are more risk tolerant than Protestants, but less than Jews. Halek and Eisenhauer (2001) find that the effect depends on the situation: Catholics and Jews are more averse to "pure" risk (as measured by their coefficient of relative risk aversion in a model of life insurance demand), but more tolerant of "speculative" risk-taking (as measured by the willingness to accept a job with equal chances of doubling or reducing the household income).

3.3. Locus of control and individual responsibility

Religious beliefs may be correlated with a different view on the locus of control: to which degree do life's outcomes depend upon one's own behavior (internal locus of control) or external forces (external locus of control)? Intuitively, people with religious beliefs – and especially those of Protestants, who believe in predestination – are expected to have a stronger external locus of control. At the same time, however, there is evidence that religious people have a "greater sense of individual responsibility" and "are more inclined to believe that people in need are lazy and lack will power" (Guiso et al., 2003). This sense of individual responsibility may be particularly relevant in Protestantism, in which "each individual determines on his own what is right" (Stulz and Williamson, 2003).

It is well known that one's locus of control can have an impact on a wide range of behaviors and decisions, including financial ones. For example, Boone et al. (1996) show that a CEO's locus of control matters as it influences corporate performance. It is thus possible that differences in the locus of control and the awareness of individual financial responsibility are also reflected in the financial decisions that households make.

3.4. Social capital

Although Alesina and La Ferrara (2002) and Bellemare and Kröger (2007) report that religious beliefs do not seem to affect the level of trust, Guiso et al. (2003) find that people who are actively practicing religion or are raised religiously trust other people more. However, also in their study, the relationship is not clear-cut. Religious *upbringing* negatively affects trust for Catholics, but not for Protestants. Nevertheless, more religious *participation* seems associated with more trust in all religions. The authors conclude that "overall, Christian religions foster trust, but more so for Protestants". Similarly, Welch et al. (2007) and Arruñada (2009) find that Protestants are more likely to trust people they are not acquainted with than Catholics. Religiosity may also play an important (but obvious) role in forming social capital through the social networks built by attending religious services or participating in activities organized by religious charity organizations.[7]

In recent years, an increasing interest has arisen in the link between social capital and financial decision-making. For instance, Guiso et al. (2008) establish a solid relationship between trust and stock market participation. Both generalized trust and personalized trust in one's banker have a large positive effect on the probability of stock market participation and the share of an individual's wealth invested in stocks (conditional on participation). Likewise, Hong et al. (2004) and Brown et al. (2008) find that sociability and social interaction have a strong impact on the decision to buy stocks. Georgarakos and Pasini (2009) confirm the positive effects of both trust and sociability.

3.5. Bequest motive and planning horizon

Religion may induce different views on intergenerational transfers and planning horizons. For example, Fink and Redaelli (2005) report that Catholic households are more likely to leave a bequest, other things equal. These households may therefore also have longer time horizons, since the two concepts are interrelated (Christelis et al., 2008). Due to their belief in the "imminent return of Jesus Christ and a view that we are therefore currently living in the end times" (Crowe, 2009), Evangelicals may have shorter time horizons.

In turn, these factors may affect financial decisions. Although there is little empirical work on how the existence of a bequest motive influences savings and investments decisions, one can logically expect households with a strong bequest motive to save more. There is no unambiguous theoretical prediction about how the household's portfolio should change with the planning horizon, although it seems that

[7] Glaeser and Sacerdote (2008) show how differences in returns to social connections may explain the positive correlation between church attendance and education found in the United States.

financial advisors often recommend to decrease the fraction of wealth invested in risky assets as the horizon gets shorter (Ameriks and Zeldes, 2004; Campbell and Viceira, 2002).

4. Data and empirical strategy

4.1. Data

The basis for this study is the DNB Household Survey, managed by CentERdata at Tilburg University. The Household Survey collects data from an online panel of about 2,000 households.[8] The panel is representative of the Dutch-speaking population of the Netherlands and changes slowly over the years.[9] Every year, CentERdata puts the collected data online[10]; most of the information is freely available to scholars. The data are grouped in eight categories. Six basic categories cover these topics: (i) general information on the household; (ii) household and work; (iii) accommodation and mortgages; (iv) health and income; (v) assets and liabilities; (vi) economic and psychological concepts. Two more aggregated categories comprise: (vii) aggregated information on income, and (vii) information on assets, liabilities, and mortgages of the households.

In our analysis, we use data covering 1995 until 2008 (whenever possible). For each household, we start from the data of the individual labeled as the household head.[11] In the following paragraphs, we outline the variables used in this study. An overview of the definitions of all variables is provided in Table 1.

[Insert Table 1 about here]

4.1.1 Financial decisions

We use a number of different *financial decisions* as dependent variables in our analysis. The variable SAVED is a dummy variable that equals one if the respondent indicates that the household has put some money aside over the last twelve months. RISKY is a dummy variable that equals one if the

[8] Households without internet access are given a so-called set-top box with which they can access the internet using their television sets. Household which don't have a television either are provided with one by CentERdata.
[9] Until the end of the 1990s, the DNB Household Survey included a disproportionately large number of high income households. To mitigate the concern that this may impact our result, we always control for income and year effects, in addition to a wide range of demographic variables.
[10] http://www.centerdata.nl
[11] If more than one member of the household reports to be the household head, we start from the data of the main wage earner or the person who does the financial administration.

household has a positive investment in risky financial assets, such as bonds, growth funds, mutual funds, stocks, or put- and call-options. The dummy variable STOCKS is more restrictive, and equals one if a household invests in individual stocks. Finally, RISKY/FINASSETS measures the share of total financial assets invested in risky assets (and is thus also equal to 1 minus the proportion of safe assets to total financial assets).[12] RISKY/FINASSETS* captures the same issue but is restricted to holders of risky assets.

4.1.2 Religion

Our dummy variable RELIGIOUS equals one if the respondent considers himself as a member of a *religious movement*. We also make a distinction between CATHOLIC, PROTESTANT (for mainline Protestants), EVANGELICAL, and OTHER RELIGION.[13] One of the advantages of studying the Netherlands is that it is clear whether people are religious or not, as outlined before.

4.1.3 Economic attitudes

Between 2004 and 2007, all individuals in the DNB Household Survey were asked to which degree they agree with the statement "Being *careful with money* is an important character trait". This variable THRIFT takes values from 1 ("totally disagree") to 7 ("totally agree").

In all years, household members are asked whether they agree, again on a scale from 1 to 7, with the statement "I think it is more important to have safe investments and guaranteed returns, than to take a risk to have a chance to get the highest possible returns". The resulting variable (RISK AVERSION) should measure the household head's *risk preferences*.

The variable INTERNAL LOCUS proxies for the individual's *locus of control* which indicates to which degree the respondent agrees with the statement "My life is determined by my own actions", on a scale from 1 to 7. LOW RESPONSIBILITY focuses on the *sense of individual financial responsibility*: "It is chiefly a matter of fate whether I become rich or poor" (with a scale where 1 is

[12] The variable RISKYFIN is censored at 0 and 1 in a few cases in which the calculated values fell outside this range.

[13] Although Muslims represent almost 6% of the Dutch population, they only form a very small part of the dataset (less than 0.5 percent), and are therefore included in the OTHER RELIGION category. The underrepresentation of Muslims may be due to the fact that the DNB Household Survey wants to be representative of the Dutch-*speaking* population. The dummy variable OTHER RELIGION also equals one when the respondent indicates to be a religious humanist, or to be a member of another (non-specified) religious denomination.

"totally disagree" whereas 7 stands for "totally agree"). Unfortunately, the data for these variables variable are only available from 2005 until 2007.

To explore the role of *social capital*, we rely on a measure of self-reported trust in the DNB Household Survey. This variable, labeled DISTRUST, is measured on a scale of 1 ("trusting, credulous") to 7 ("suspicious"). The data are available for all years until 2002 (except in 1996).[14]

We test for the existence of a *bequest motive* by introducing a variable (BEQUEST MOTIVE), which measures how important the respondent believes it is "to save so I can leave a house and/or other valuable assets to my children" on a scale from 1 ("very unimportant") to 7 ("very important").[15] We also include the household's *planning horizon* in our analysis. The variable TIME HORIZON contains the answer to the question "Which of the time-horizons mentioned below is in your household most important with regard to planning expenditures and savings?" on a scale from 1 ("the next couple of months") to 5 ("more than 10 years from now").

4.1.4 Control variables

We include a wide range of *demographic control variables*, the most obvious ones being AGE, its square AGE^2, and the dummy variable MALE. The *composition of the household* is measured by the dummy variable PARTNER (which equals one if the household head has a partner who is also part of the household) and the variable CHILDREN (the number of children in the household). BAD HEALTH is a dummy variable that equals one in all cases in which the person indicates his *health* to be "fair", "not so good" or "poor", as opposed to "excellent" or "good".

The *employment status* of the household head is captured by the dummy variables EMPLOYED (on a contractual basis), SELF-EMPLOYED (in own business, in a liberal profession, on a freelance basis, etc.) and RETIRED, where the left-out category includes all unemployed household heads. Three dummy variables capture the *level of completed education* by the household head: UNIVERSITY, VOCATIONAL (for household heads who have a degree from a vocational college) and PRE-UNIVERSITY (for individuals who have a scientific secondary/high school degree). The left-out category includes all individuals with another degree, or none at all. The dummy variable EDU_ACQUAINTANCES equals one if the respondent indicates that most of his acquaintances have

[14] To the survey of 2008, we have added the question "Generally speaking, would you say that most people can be trusted or that you have to be very careful in dealing with people?" in order to measure trust in the same way as did Guiso et al. (2008). However, when using this variable, the sample size becomes rather small such that it is difficult to get sufficient statistical power to draw any conclusions on this new question.
[15] Individuals without children are asked not to answer this question.

a high education level (university or vocational college). This variable is expected to capture *peer effects*.

Data on (the natural log of) the aggregated net *income* of the household (LN(INCOME) and its square LN(INCOME)^2) are calculated from the data sets in the DNB Household Survey. We also calculate (the log of) each household's net *wealth* by aggregating the value of all assets (except private business equity) and subtracting debts and mortgages. This leads to the control variables LN(NETWORTH) and LN(NETWORTH)^2. All income and net worth figures were first transformed to real terms using the official consumer price index of Statistics Netherlands.

4.2. Descriptive statistics

Table 2 gives the descriptives (number of observations, mean, standard deviation, minimum, median, and maximum) for the variables outlined above. It should be noted that we are considering a data panel consisting of household-year observations. Table 2 shows that in 71% of the cases the household had saved in the preceding year, and in 28% the household indicates it owns risky assets. In our sample, slightly more than half of our observations concern households with a religious head. The biggest religious group is the Catholic one, followed by the Protestants, in line with the overall Dutch population (see Section 2). It also becomes clear from Table 2 that there is considerable variation in the answers on the questions relating to economic attitudes, which will enable us to get an understanding of the relationship between religious background, economic beliefs and preferences, and financial decisions.

[Insert Table 2 about here]

4.3. Empirical strategy

In a first step, we perform a *univariate analysis* to check whether, on average, religious people have different economic attitudes and take different financial decisions than do non-religious people. We compare the mean values on the relevant variables using a two-sample T-test. We repeat this analysis to formally test whether the mean value for each separate religious denomination is equal to that of the non-religious group. The results are reported in subsection 5.1.

Second, we undertake a *reduced-from approach* to investigate to which degree religiosity is associated with differences in household finance. We estimate the following multivariate model:

$$Y_{it} = \alpha_1 + X_{it}\beta + C_{it}\gamma + T + \varepsilon_{1it} \quad (1),$$

where Y_{it} is the financial decision variable (SAVED, RISKY, STOCKS, RISKY/FINASSETS, or RISKY/FINASSETS*), X_{it} are the religion dummy variables, and C_{it} are our control variables (such as AGE, EMPLOYED, LN(INCOME), etc.). In all equations, T stands for fixed time effects, while the alphas (α) are intercepts and the epsilons (ε) are error terms. Depending on the nature of the dependent variable, we will use a probit (dummy variables) or tobit (censored continuous variables) model, or estimate an OLS regression. Our interest mainly lies in the coefficient β, which gives information on the relationship between religiosity and financial decision-making, but we will also discuss the coefficients on the control variables (γ). In line with Petersen (2009), we cluster standard errors per household to account for unobserved household effects: residuals may be correlated across time for the same household.[16] Subsection 5.2. discusses the results of this analysis.

Third, we try to identify the channels through which religion has its impact on household finance. We start by estimating the structural relationship between economic attitudes and financial decision-making:

$$Y_{it} = \alpha_2 + E_{it}\kappa + C_{it}\lambda + T + \varepsilon_{2it} \quad (2),$$

where E_{it} captures the economic attitudes (THRIFT, RISK AVERSION, etc.), and Y_{it} and C_{it} stands for the same control variables as before. The coefficients κ will provide insight in the correlation between the choices to save or to invest in risky assets on the one hand, and economic attitudes on the other. However, as the self-reported economic attitudes might be endogenous to the financial decisions, and as we are mainly interested in how religion impacts financial choices, we apply a two-step *instrumental variable framework*, in which each economic attitude is instrumented with the religion variables. The simultaneous equations system is the following:

$$E_{it} = \alpha_3 + X_{it}\mu + C_{it}\nu + T + \varepsilon_{3it} \quad (3)$$

$$Y_{it} = \alpha_4 + \hat{E}_{it}\kappa_{IV} + C_{it}\lambda_{IV} + T + \varepsilon_{4it} \quad (4).$$

In the first step, equation (3), the value on the economic attitude E_{it} is regressed on all instruments, i.e. the religion data (X_{it}), the control variables (C_{it}), and the time fixed effects (T). The coefficients μ

[16] A different way to address the issue of residual dependence in a panel data set-up is the use of a random effects model: see our robustness checks in Section 6.

measure the impact of religious background on economic beliefs and preferences. In the second step, equation (4), the predicted values on the economic attitudes ($\hat{E}_{it}$) are introduced, so that the coefficient κ_{IV}, the instrumental variable equivalent of κ from equation (2), shows how financial decisions are influenced by exogenously induced variation in the economic attitudes. It is important to note that, in this two-step set-up, standard errors can not be clustered per household anymore.[17] A potential problem with instrumental variables estimation is that the instruments are only weakly correlated to the endogenous regressor (here the economic attitude). Therefore, in each case, we report the results of the F-test on the excluded instruments X_{it} in the OLS estimation of equation (3). An often-used cut-off value for this test is 10; if the F-statistic is higher, there is little reason to worry about weak instruments (Verbeek, 2004). When we use more than one instrument, we perform an Amemiya-Lee-Newey minimum chi-square test to check that our model is adequately identified. The null hypothesis of this test is that the instruments are valid, i.e. that they are uncorrelated with the error term in the structural equation (2). A rejection of this test would cast doubt on the specification of the model. In every model, we also report the results of a Wald exogeneity test, which has as null hypothesis that the instrumented variable is exogenous. If the test is rejected, this means that we are indeed right in our decision to instrument the economic attitude E_{it}. The empirical results for this third step are outlined in subsection 5.3.

5. Results

5.1. Univariate analysis

We want to investigate whether religious individuals have other beliefs and preferences (that matter for household financial decision-making) than non-religious individuals. Therefore, we undertake an independent-samples T-test in which we compare the mean values on the different economic attitude variables for religious and non-religious respondents in the DNB Household Survey. Since not all economic attitudes have been measured in every year, the magnitude of the sample varies.[18] The results are outlined in Panel A of Table 3. We also compare the means of the non-religious category with those of – respectively – the Catholic, Protestant, Evangelical, and 'other religion' groups.

[17] In Section 6, we will undertake a maximum likelihood instrumental variable analysis with clustered standard errors.

[18] Also, each household (head) is included only once in this univariate analysis. If the household is in the survey panel for more than one year, we only use the economic attitude of the household for the last available year.

[Insert Table 3 about here]

It becomes clear that religious people, on average, care more about saving, are somewhat more risk averse (although not significantly), have a weaker internal locus of control, consider themselves more trusting, deem it much more important to leave money to their children, and have a longer planning horizon. In most cases, the direction of the effect is the same for all included Christian religions (the only exception is the planning horizon), but the magnitude sometimes differs. For example, it seems that, at least in this univariate set-up, thriftiness is particularly important for Protestants and Evangelicals. The same groups also have a weaker internal locus of control than Catholics (and non-religious individuals), and a somewhat greater sense of individual financial responsibility. The reported statistics also show that especially Catholics deem it important to leave a bequest to their children and have longer planning horizons. In many respects, Evangelicals seem to have the most outspoken views: they care the most about thrift, are the most risk-averse, and have the strongest external locus of control. However, the number of observations for this group is small, which implies that only cautious generalizations can be made.

Panel B of Table 3 shows the results of a similar analysis, but this time for financial decisions. In general, religious individuals more frequently report that they have saved in the previous year. There are only relatively small differences between religious and non-religious households with respect to their investments in risky assets in general, or in stocks in particular. Protestants and Evangelicals are somewhat more likely than non-religious households to hold stocks, and also have higher proportions of their wealth in risky assets, but the differences are statistically not significant.

Religion is not the only factor that impacts on (or is correlated with) the financial decision variables. Therefore, we now turn to a multivariate analysis in which we can control for a large number of demographic and background characteristics that have been identified in the household finance literature.

5.2. Reduced-form approach

The direct, reduced-form impact of religious background on financial decisions is analyzed in Table 4. Conditional on the nature of the dependent variable, we apply a probit (for the dummy variables SAVED, RISKY, and STOCKS), tobit (for the censored variable RISKY/FINASSETS), or OLS (for the same variable, but limited to risky asset holders: RISKY/FINASSETS*) model. As outlined in the previous section, we include all control variables, while year dummies capture fixed time effects.

[Insert Table 4 about here]

Table 4 shows that religious household heads are more likely to put aside money (SAVED), controlling for age, gender of the respondent, household structure (partner and children), health status, employment status, educational level (both of the household head and of the acquaintances), income, net worth, and year effects. The effect is similar in magnitude for Catholic and Protestant households: the probit coefficients imply that both household types are about 3% more likely to have saved than non-religious ones, holding all other variables constant at their mean. The effect is even larger for Evangelicals, although in this case the coefficient is not significant, due to the relatively small number of Evangelical households. Catholics are significantly less likely to invest in risky assets in general (RISKY), and in stocks in particular (STOCKS). Protestants also seem somewhat less likely to invest in risky assets relative to non-religious people. The reverse is true for Evangelicals: they are almost 23% more likely to invest in risky assets, all else equal, possibly following from the importance they attach to individual financial responsibility. The same pattern re-emerges when considering the share of financial assets invested in risky assets (RISKY/FINASSETS). We do not see significant effects of religion on these proportions conditional on holding risky assets (RISKY/FINASSETS*), although the sign is again negative for Catholic households and positive for Evangelical ones.

The financial decisions to save, to invest in risky assets, and to invest in stocks are also correlated with most of the demographic and background risk factors included in our analysis. Male household heads are less likely to save (although not significantly), and more likely to invest in risky assets and especially stocks. The opposite holds when a partner is present in the household. The presence of children and a bad health status seem to make it more difficult to save money, while retired household heads are more likely to save. More highly educated individuals are more likely to invest in risky assets, even when controlling for the employment status and income. As expected, there are also income and net worth effects: households with a very high net income or net worth are much more likely to invest in risky asset categories (as the squared term indicates).

5.3. Instrumental variable approach

A caveat on the reduced-form approach is that it does not enable us to draw conclusions on *why* religious households save more or invest less in risky assets. Therefore, we incorporate economic attitudes in our analysis. We first want to verify that the potential channels outlined in the literature review do matter indeed for household financial decision-making. Table 5 outlines the results of a multivariate analysis presented in the previous section, but now with the different economic attitudes

as independent variables (instead of the religion variables). We also include all the control variables exhibited in Table 4, but do not report them in Table 5 for reasons of conciseness. Also, henceforth, we will focus on SAVED, RISKY, and RISKY/FINASSETS.[19]

[Insert Table 5 about here]

From Panels A-C of Table 5, we conclude that differences in economic attitudes (between people of varying religious denominations) are indeed correlated with differences in financial decisions. Household heads who care more about thrift, have a greater sense of individual responsibility (i.e. who think that becoming rich or poor does not depend on fate), or have longer financial planning horizons are both more likely to save and to own risky assets. As expected, risk averse individuals head households which save more, but invest less in risky asset categories. Additionally, there is a positive correlation between the self-reported distrust and the bequest motive on the one hand and the probability of owning risky assets on the other.

In this analysis, most of the statistically significant differences are also economically significant. For example, holding all other variables constant at their mean, household heads who "totally agree" that thrift is an important character trait are 12.65% more likely to have saved and 15.16% more likely to own risky assets than individuals who "totally disagree" with that statement. Similarly, the most risk averse households are 9.22% more likely to have put aside money and 20.08% less likely to own stocks than the least risk averse ones.

However, the problem with this analysis is that the economic attitudes may be endogenous with respect to the financial decisions, and therefore the results in Table 5 cannot be interpreted as being causal. For example, someone who has locked up money in risky assets may be more likely to indicate that he has a long planning horizon exactly because of this risky investment. Also, it is likely that both the bequest motive and the financial decisions are both influenced by demographic factors such as the net worth position of the household, leading to an upward bias of the coefficient in Table 5.

Therefore, undertaking an instrumental variable (IV) analysis in which the attitudes are instrumented with the exogenous religion variables will serve two goals at once: (i) it enables us to identify through

[19] STOCKS is just a subcategory of RISKY, and RISKY/FINASSETS* takes the same values as RISKY/FINASSETS, but limits the sample to holders of risky assets. Moreover, from the previous section, we conclude that STOCK is impacted in the same way by religious background as the broader RISKY category. The only relevant difference is that the coefficient on the Protestant dummy is negative in the RISKY model (although not significant), but very close to zero (and positive) in the STOCK model. The same more or less holds for RISKY/FINASSETS* and RISKY/FINASSETS, respectively.

which economic attitudes religious beliefs affect financial decisions, and (ii) it alleviates the endogeneity concerns as the ones outlined in the previous paragraph. Table 6 reports the results of a Newey two-step IV approach in which the economic attitudes are instrumented with (i) RELIGION, (ii) CATHOLIC, PROTESTANT, EVANGELICAL, and OTHER RELIGION, or (iii) CATHOLIC and PROTESTANT. In the third model specification, Evangelicals and "other" religious denominations are excluded, since these small groups may make it more difficult to get to meaningful results. All control variables (on demography, employment, education, etc.) are included in both stages of the estimation, but the coefficients on these variables are not reported for reasons of conciseness. As explained in Section 3, Table 6 also shows the results of a Wald test testing the exogeneity of the economic attitude, of the Amemiya-Lee-Newey (ALN) overidentification test (in all cases where more than one instrument is used) to ensure that our model is adequately identified, and of the F-test to check that the religion variables are no weak instruments for the economic attitudes.

[Insert Table 6 about here]

The first stage results of Panels A-G of Table 6 confirm the previous, univariate findings on the differences in economic attitudes between religious groups: Catholics, Protestants, and Evangelicals seem to care more about saving, are more risk averse, have a weaker internal locus of control, consider themselves more trusting, and have stronger bequest motives. Again, it is important to note that the magnitude of the effect can differ between the considered religions. In addition, Protestants and Evangelicals have a greater sense of individual financial responsibility than non-religious or Catholic households (Panel D), while Catholics and Protestants have a relatively long time horizon (Panel G). In general, the results of the F-tests indicate that the religion variables are strongly correlated with economic attitudes. In the instrumentation of THRIFT (Panel A) and LOW RESPONSIBILITY (Panel D), the F-statistics are relatively low. Still, even in those cases, the F-value is around 4 in the set-up with all religion dummy variables, and the p-value rejects the null hypothesis that there is no correlation between the denomination variables and the economic attitude. We now turn to the discussion of the second stage results. Wherever possible, we will focus on the models in which the attitude is instrumented by all four religion dummies.

Panel A shows that thrift is an important channel through which religion affects the savings decision. The high emphasis on thrift with Catholics, Protestants and (especially) Evangelicals leads to a higher probability of saving within these households. Moreover, the Wald test indicates that thrift is indeed endogenous with respect to the savings decision (p-value of 0.007), and the result on the ALN-test shows that our model which includes all religious denomination variables is not overidentified (p-

value of 0.705). Although we see significant results for the models in which RISKY and RISKY/FINASSETS are the dependent variables, one should be careful in drawing conclusions as the ALN-test indicates that these models are overidentified, implying that the model is not consistent with the data.

In addition to thrift, risk aversion (RISK AVERSION) plays a significant role in household finance, and is able to partially explain how religion affects financial decision-taking (see Panel B of Table 6). In general, religious households – Catholics and Evangelicals in particular – have a higher risk aversion, which in turn leads to a higher likelihood of saving. Moreover, the specification in which the four religious denomination dummies serve as instruments for the endogenous economic attitude RISK AVERSION is not overidentified (p-value of 0.171), which validates the model. With respect to investing in risky assets, it seems that the higher risk aversion of Catholics and Protestants leads to lower investments. In contrast, the specifications in which risk aversion is instrumented by all four religious denomination variables is clearly overidentified when RISKY or RISKY/FINASSETS are the dependent variables (p-values on the ALN-test of 0.000). This may be explained by the observation that, at least in our dataset, Evangelicals have the highest levels of risk aversion, but also invest more than on average in risky assets.

Protestants and Evangelicals have a stronger external locus of control (lower values on INTERNAL LOCUS), and a higher sense of individual financial responsibility (lower values on LOW RESPONSIBILITY). There is some evidence that a stronger external locus of control leads to lower investments in risky assets for Catholic and Protestant households (Panel C). From Panel D, which concerns individual responsibility, no strong conclusions can be drawn as the second stage coefficients are generally not significant (while the first stage F-statistics were already low).

Panel E shows that religious household heads of all denominations consider themselves relatively trusting, and more trusting people (lower values on DISTRUST) are more likely to save. The specifications trying to explain the decision to hold risky assets are clearly overidentified (the p-values on ALN-test are lower than 0.05) when more than one instrument is used, which sheds some doubt on the use of DISTRUST as a channel between religious background and risky investments.

As reported before, religious beliefs lead to stronger bequest motives (Panel F of Table 6). The bequest motive seems to be an important channel between religion and savings behavior for all denominations considered in this study. At least for Catholics and Protestants (but again especially for the first group), a stronger bequest motive may also lead to lower investments in risky assets.

Differences in the planning horizon can partially explain differences in household finance (see Panel G): the longer planning horizons of Catholics and Protestants lead to a higher likelihood of saving and a lower likelihood of investing in risky assets. It may seem somewhat counterintuitive (see Campbell and Viceira, 2002) that a long planning horizon leads to lower investments in risky financial assets. However, it may be that religious households with strong bequest motives and, relatedly, long planning horizons do not want to "gamble" with the money foreseen for their children and therefore invest less in risky asset categories.

Overall, we can conclude that several economic channels are relevant within the context of religion and household finance. The higher emphasis on thrift, higher risk aversion, higher (self-reported) trust, stronger bequest motive and longer planning horizons can all partially explain why religious households of all denominations are more likely to put aside more money than non-religious households. The lower investments in risky assets by Catholics (and also somewhat by Protestants) are due to a combination of higher risk aversion, a stronger bequest motive, and a longer planning horizon. It is, however, hard to explain why (the small sample of) Evangelicals in our study combine relatively large investments in risky assets with relatively 'conservative' economic attitudes (with exception of the shorter horizon).[20]

6. Robustness checks

In the previous section, we have performed two multivariate regression analyses with the financial choices as dependent variables. In Table 4, the religion denominations were included as the independent variables, while in Table 5 we looked into the economic attitudes. In both cases, we introduced year fixed effects, and clustered the standard errors per household, as this leads to unbiased standard errors (Petersen, 2009). However, an alternative way of exploiting the panel structure of our data set is estimating a random effects model, which will also result in correctly sized confidence interval, as long as the household effect is permanent (Petersen, 2009). Therefore, as a robustness check, we repeat the analyses from Tables 4 and 5, but now with household random effects. Again, we

[20] A possible explanation for this puzzle is given by Crowe (2009). He states that some Evangelical writers have stressed the importance "to behave wisely in all spheres of life (including the economic) even while expecting Jesus' return". To illustrate this, these writers have quoted the parable of the nobleman who entrusted his savings to his servants, and upon his return praised the servant that had invested the money lucratively, while condemning the one that had only safely locked away the money.

include all control variables and year dummies. We find that the results and conclusions are very similar to the ones from the previous section.[21]

In our instrumental variable analysis, we estimated equations (3) and (4) via a two-step procedure. An alternative to this approach is a joint maximum likelihood estimation of the system of equations. An advantage of this methodology is that standard errors can be clustered by household. We thus repeat all analyses from Table 6 using maximum likelihood. Again, our conclusions remain unchanged.

7. Conclusion

"*No servant can serve two masters;*
for either he will hate the one and love the other,
or else he will be devoted to one and despise the other.
You cannot serve God and wealth."
[Luke 16:13]

Although recent studies have made clear that religion can be an important force on the macro level, less is known about the role religion plays on the micro level of the individual or the household. Therefore, this study has looked into the impact of religion on household finance: do households belonging to specific religious denominations take different financial decisions than non-religious households? And also: which economic attitudes act as channels between religion and household financial decision-making?

In his review of the literature, Campbell (2006) lists a number of characteristics of the ideal data set for positive household finance research: amongst others, the sample of households should be representative of the total population, the data set should measure both total wealth and its breakdown into relevant categories and asset classes, the data should be reported with a high level of accuracy, and the data set should be of the panel data type. Luckily, such a data set exists for the Netherlands: the DNB Household Survey, formerly known as the CentER Savings Survey. This is also the data set used by Guiso et al. (2008) to measure the impact of trust on stock market participation.

We use data from the DNB Household Survey from 1995 to 2008. We relate religious affiliation both to economic attitudes and to financial decision variables. We conclude that Catholics, Protestants, and Evangelicals deem it important to save, are relatively risk-averse, are less likely to think that their life

[21] We do not present the tables of the robustness checks, but the results are available upon request.

is determined by their own actions (they have a stronger external locus of control), consider themselves more trusting, and care more about leaving money to their children than non-religious households. Additionally, Catholics and Protestants (but not Evangelicals) have longer planning horizons, and Protestants and Evangelicals (but not Catholics) have a relatively great sense of individual financial responsibility.

Next, we show that religious household heads are more likely to put aside money than non-religious individuals, controlling for demographic characteristics (such as age, gender, family size, and education) and background risk factors (such as the health status). Catholic households are less likely to invest in risky assets such as bonds and stocks, whereas Evangelical households are significantly more likely to hold risky assets.

We also use a two-staged instrumental variables approach to examine through which economic preferences religion influences households' financial behaviour. In other words, we attempt to answer *why* religious convictions lead to specific financial decisions. In a first stage, we investigate the relation between the religious denominations and the economic preferences (thrift, risk aversion, the locus of control and the sense of financial responsibility, trust, the bequest motive and planning horizon). In the second stage, we study the impact of the economic attitudes (instrumented by religious convictions). We conclude that the differences in financial decisions between the religious denominations can indeed to a certain extent be explained by variations in the economic attitudes.

Thrift is an important channel through which religion affects the savings decision: the high emphasis on thrift with Catholics, Protestants and (especially) Evangelicals leads to a higher probability of saving within these households. Saving is also stimulated by the higher risk aversion and stronger bequest motives that we find in religious households, and by the longer planning horizons of Catholics and Protestants.

With respect to investing in risky assets, the higher risk aversion of Catholics (and Protestants, but to a lesser degree) leads to lower investments. Again, the differences in the bequest motive and planning horizon can partially explain differences in household finance: the greater importance that Catholics attach to leaving a bequest to their children and the longer horizons of Catholics and Protestants lead to lower likelihoods of investing in risky assets. It may be that religious households with strong bequest motives and, relatedly, long planning horizons do not want to "gamble" with the money foreseen for their children and therefore invest less in risky asset categories.

Our results have both micro- and macroeconomic implications. First, they show that heterogeneity in religious beliefs may lead to variation in economic attitudes and financial decision-making on the level of the individual or the household. Second, they also suggest how cross-country variation in savings decisions and financial participation may be influenced by differences in religion and religiosity. For example, it is interesting to observe that the European countries which traditionally have the lowest stock market participation rates (such as Austria, Italy, and Spain) are all predominantly Catholic. Our results suggest that religion may play an important role here, through its effects on economic beliefs and preferences.

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Table 1: Definition of variables

Table 1 defines our variables. The second column shows the source in the DNB Household Survey. The third column shows how the information translates to the values used in this study.

	Question / statement / information used	Values
Financial decisions		
SAVED	"Did your household put any money aside in the past 12 months?"	"yes"=1; "no"=0
RISKY	Sum of household investments in stocks, bonds, put and call options and funds	larger than zero=1; zero=0
STOCKS	Sum of household investments in stocks	larger than zero=1; zero=0
RISKY/FINASSETS	Ratio of RISKY to total financial assets	[0,1]
RISKY/FINASSETS*	Ratio of RISKY to total financial assets for households where RISKY = 1	[0,1]
Religion		
RELIGIOUS	Religion	no religious denomination=0; other=1
CATHOLIC	Religion	Roman-Catholic=1; other=0
PROTESTANT	Religion	mainline Protestant=1; other=0
EVANGELICAL	Religion	Evangelical=1; other=0
OTHER RELIGION	Religion	{Muslim, Humanist, other}=1; other=0
Economic attitudes		
THRIFT	"Being careful with money is an important character trait"	"totally disagree"=1;...;"totally agree"=7
RISK AVERSION	"I think it is more important to have safe investments and guaranteed returns, than to take a risk to have a chance to get the highest possible returns"	"totally disagree"=1;...;"totally agree"=7
INTERNAL LOCUS	"My life is determined by my own actions."	"totally disagree"=1;...;"totally agree"=7
LOW RESPONSIBILITY	"It is chiefly a matter of fate whether I become rich or poor."	"totally disagree"=1;...;"totally agree"=7
DISTRUST	"Please indicate for each pair of qualities which number would best desribe your personality."	"trusting, credulous"=1;...;"suspicous"=7
BEQUEST MOTIVE	"How important is it to you to have some money saved […] so I can leave a house and/or other valuable assets to my children?"	"very unimportant"=1;...;"important"=7
TIME HORIZON	"Which of the time-horizons mentioned below is in your household most important with regard to planning expenditures and savings?"	"the next couple of months"=1; "the next year"=2; "the next couple of years"=3; "the next 5 to 10 years"=4; "more than 10 years from now"=5
Control variables		
AGE	Year of survey - year of birth	
MALE	Sex of the respondent	male=1; female=0
PARTNER	"Is there a partner present in the household?"	"yes"=1; "no"=0
CHILDREN	Number of children in the household	
BAD HEALTH	"In general, would you say your health is…"	{"fair", "not so good", "poor"}=1; {"excellent", "good"}=0
EMPLOYED	Primary occupation of the respondent	"employed on a contractual basis"=1; other=0
SELF-EMPLOYED	Primary occupation of the respondent	{"works in own business", "free profession, freelance"}=1; other=0
RETIRED	Primary occupation of the respondent	"retired"=1; other=0
UNIVERSITY	Highest level of education completed	"university education"=1; other=0
VOCATIONAL	Highest level of education completed	"vocational colleges"=1; other=0
PRE-UNIVERSITY	Highest level of education completed	"HAVO, VWO (pre-university education)"=1; other=0
EDU_ACQUAINTANCES	"Which level of education do most of your acquaintances have?"	{"vocational colleges / first year university education", "university education"}=1; other=0
LN(INCOME)	Ln(total household net income in year 2007 euro)	
LN(NET WORTH)	Ln(total household net worth in year 2007 euro)	

Table 2: Descriptive statistics

Table 2 gives the descriptive statistics (number of observations (N), mean, standard deviation (S.D), minimum, median, and maximum) for the variables used in this study. All variables are defined in Table 1.

	N	Mean	S.D.	Min.	Median	Max.
Financial decisions						
SAVED	18,660	0.71	0.45	0.00	1.00	1.00
RISKY	21,629	0.28	0.45	0.00	0.00	1.00
STOCKS	21,629	0.13	0.34	0.00	0.00	1.00
RISKY/FINASSETS	20,391	0.11	0.24	0.00	0.00	1.00
RISKY/FINASSETS*	5,636	0.40	0.30	0.00	0.33	1.00
Religion						
RELIGIOUS	27,381	0.58	0.49	0.00	1.00	1.00
CATHOLIC	27,381	0.31	0.46	0.00	0.00	1.00
PROTESTANT	27,381	0.20	0.40	0.00	0.00	1.00
EVANGELICAL	27,381	0.01	0.12	0.00	0.00	1.00
OTHER RELIGION	27,381	0.06	0.23	0.00	0.00	1.00
Economic attitudes						
THRIFT	5,238	5.86	1.04	1.00	6.00	7.00
RISK AVERSION	16,408	5.02	1.69	1.00	5.00	7.00
INTERNAL LOCUS	3,848	4.99	1.26	1.00	5.00	7.00
LOW RESPONSIBILITY	3,847	3.23	1.52	1.00	3.00	7.00
DISTRUST	8,655	4.13	1.24	1.00	4.00	7.00
BEQUEST MOTIVE	18,394	2.72	1.78	1.00	2.00	7.00
TIME HORIZON	18,598	2.23	1.18	1.00	2.00	5.00
Control variables						
AGE	27,924	48.75	14.47	14.00	47.00	95.00
MALE	27,926	0.79	0.40	0.00	1.00	1.00
PARTNER	27,927	0.72	0.45	0.00	1.00	1.00
CHILDREN	27,927	0.78	1.11	0.00	0.00	7.00
BAD HEALTH	20,404	0.21	0.40	0.00	0.00	1.00
EMPLOYED	27,854	0.64	0.48	0.00	1.00	1.00
SELF-EMPLOYED	27,854	0.04	0.20	0.00	0.00	1.00
RETIRED	27,854	0.17	0.37	0.00	0.00	1.00
UNIVERSITY	27,925	0.13	0.34	0.00	0.00	1.00
VOCATIONAL	27,925	0.26	0.44	0.00	0.00	1.00
PRE-UNIVERSITY	27,925	0.11	0.31	0.00	0.00	1.00
EDU_ACQUAINTANCES	18,314	0.35	0.48	0.00	0.00	1.00
LN(INCOME)	18,600	10.12	0.85	-0.61	10.24	14.21
LN(NET WORTH)	17,418	11.12	1.75	-0.71	11.61	17.73

Table 3: Univariate analysis economic attitudes and financial decisions

Table 3 compares the mean values on the economic attitude variables (panel A) and financial decision variables (panel B) of the non-religious group with the group of religious households, and with the subgroups of Catholic, Protestant, Evangelical and other religious household heads. It also reports the results of an independent samples T-test. T-statistics which are significantly different from zero on the 10% level are in bold. The number of observations (N) is indicated below each group. All variables are defined in Table 1.

Panel A: Univariate analysis economic attitudes

	Non-religious	Religious	T-stat	Catholic	T-stat	Protestant	T-stat	Evangelical	T-stat	Other religion	T-stat
THRIFT	5.78	5.95	**-3.689**	5.94	**-3.012**	6.01	**-4.018**	6.13	**-2.266**	5.78	-0.008
N	849	1,155		584		375		31		165	
RISK AVERSION	4.89	4.95	-1.206	4.97	-1.430	4.92	-0.371	5.06	-0.794	4.94	-0.389
N	2,136	2,888		1,482		1,053		64		289	
INTERNAL LOCUS	5.18	4.89	**4.569**	5.07	1.465	4.69	**5.868**	4.27	**2.575**	4.82	**2.680**
N	714	994		510		319		26		139	
LOW RESPONSIBILITY	3.23	3.19	0.500	3.23	0.108	3.17	0.600	2.96	0.883	3.14	0.609
N	714	994		510		319		26		139	
DISTRUST	4.27	4.02	**6.504**	4.04	**5.160**	4.05	**4.512**	4.04	1.412	3.81	**5.286**
N	1,791	2,397		1,265		868		53		211	
BEQUEST MOTIVE	2.52	2.95	**-8.854**	3.07	**-9.200**	2.85	**-5.215**	3.01	**-2.305**	2.73	**-1.970**
N	2,337	3,111		1,598		1,126		68		319	
TIME HORIZON	2.17	2.29	**-3.711**	2.34	**-4.279**	2.27	**-2.306**	2.01	1.291	2.19	-0.299
N	2,347	3,136		1,610		1,134		70		322	

Table 3 (cont.): Univariate analysis economic attitudes and financial decisions

Panel B: Univariate analysis financial decisions

	Non-religious	Religious	T-stat	Catholic	T-stat	Protestant	T-stat	Evangelical	T-stat	Other religion	T-stat
SAVED	0.69	0.72	**-1.752**	0.71	-1.366	0.73	**-2.369**	0.69	0.138	0.67	0.788
N	2,352	3,140		1,613		1,134		70		323	
RISKY	0.2404	0.2438	-0.313	0.2441	-0.286	0.2437	-0.227	0.2381	0.048	0.2443	-0.160
N	2,592	3,523		1,823		1,268		84		348	
STOCKS	0.1076	0.1169	-1.142	0.1114	-0.390	0.1222	-1.323	0.1548	-1.173	0.1178	-0.572
N	2,592	3,523		1,823		1,268		84		348	
RISKY/FINASSETS	0.0937	0.0996	-0.960	0.0966	-0.408	0.1021	-1.036	0.1045	-0.417	0.1044	-0.790
N	2,482	3,395		1,754		1,231		81		329	
RISKY/FINASSETS*	0.3795	0.3818	-0.165	0.3678	0.711	0.3931	-0.717	0.4596	-1.288	0.3971	-0.540
N	773	1,124		584		410		26		104	

Table 4: Multivariate analysis of the financial decisions (with religion variables)

Table 4 shows the results of a reduced-form regression analysis, with the financial decision variables as dependent variables, and the religion and control variables as independent variables. The coefficients on the year dummies are not reported. Standard errors are clustered per household. Coefficients on the religion and control variables which are significantly different from zero within the 10% level are reported in bold. All variables are defined in Table 1.

	SAVED Probit				RISKY Probit				STOCKS Probit				RISKY/FINASSETS Tobit				RISKY/FINASSETS* OLS			
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**0.090**	0.043			-0.060	0.049			-0.045	0.061			-0.026	0.023			-0.006	0.017		
CATHOLIC			**0.092**	0.050			**-0.096**	0.059			**-0.133**	0.072			**-0.047**	0.027			-0.015	0.020
PROTESTANT			**0.095**	0.056			-0.078	0.063			0.019	0.076			-0.032	0.028			0.001	0.020
EVANGELICAL			0.281	0.185			**0.598**	0.235			**0.872**	0.243			**0.258**	0.091			0.019	0.051
OTHER RELIGION			0.017	0.100			0.084	0.117			-0.041	0.127			0.052	0.055			0.011	0.031
AGE	-0.010	0.011	-0.010	0.010	**-0.032**	0.012	**-0.033**	0.012	**-0.028**	0.014	**-0.028**	0.014	**-0.023**	0.006	**-0.023**	0.006	**-0.014**	0.004	**-0.014**	0.004
AGE^2	0.000	0.000	0.000	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000
MALE	-0.062	0.063	-0.064	0.063	0.074	0.070	0.081	0.070	**0.196**	0.091	**0.203**	0.090	0.040	0.034	0.044	0.034	0.006	0.024	0.007	0.024
PARTNER	0.074	0.059	0.074	0.059	**-0.133**	0.066	**-0.132**	0.066	**-0.196**	0.083	**-0.203**	0.083	**-0.097**	0.032	**-0.096**	0.031	**-0.081**	0.022	**-0.081**	0.022
CHILDREN	**-0.132**	0.020	**-0.132**	0.020	-0.033	0.024	-0.038	0.024	0.021	0.030	0.015	0.029	-0.008	0.011	-0.011	0.011	0.012	0.008	0.011	0.008
BAD HEALTH	**-0.084**	0.046	**-0.082**	0.046	-0.039	0.054	-0.044	0.054	-0.012	0.066	-0.009	0.066	-0.021	0.025	-0.024	0.025	-0.005	0.018	-0.006	0.018
EMPLOYED	**0.411**	0.065	**0.410**	0.065	-0.039	0.083	-0.044	0.083	-0.140	0.105	-0.150	0.104	-0.027	0.039	-0.029	0.039	-0.025	0.029	-0.024	0.029
SELF-EMPLOYED	-0.118	0.106	-0.118	0.106	**-0.211**	0.124	**-0.217**	0.124	-0.150	0.143	-0.156	0.143	-0.078	0.059	-0.082	0.058	-0.002	0.045	-0.004	0.045
RETIRED	**0.173**	0.071	**0.172**	0.071	0.020	0.083	0.025	0.083	-0.061	0.097	-0.055	0.097	0.002	0.039	0.006	0.039	-0.002	0.030	0.000	0.030
UNIVERSITY	0.055	0.067	0.054	0.067	**0.198**	0.077	**0.194**	0.077	0.146	0.095	0.143	0.095	**0.101**	0.034	**0.100**	0.034	0.030	0.024	0.031	0.024
VOCATIONAL	0.070	0.053	0.071	0.053	**0.118**	0.062	**0.112**	0.062	0.120	0.077	0.119	0.077	**0.051**	0.028	**0.048**	0.028	-0.006	0.019	-0.005	0.019
PRE-UNIVERSITY	**-0.112**	0.066	**-0.111**	0.066	**0.256**	0.080	**0.259**	0.080	**0.280**	0.096	**0.289**	0.096	**0.126**	0.037	**0.128**	0.037	0.028	0.028	0.029	0.028
EDU_ACQUAINTANCES	-0.035	0.045	-0.031	0.045	**0.131**	0.051	**0.133**	0.051	0.104	0.064	**0.113**	0.064	**0.049**	0.023	**0.050**	0.023	-0.009	0.015	-0.009	0.015
LN(INCOME)	**-0.449**	0.167	**-0.448**	0.166	**-0.231**	0.121	**-0.223**	0.120	**-0.377**	0.117	**-0.378**	0.116	**-0.105**	0.058	**-0.099**	0.058	**-0.200**	0.097	**-0.196**	0.098
LN(INCOME)^2	**0.032**	0.009	**0.032**	0.009	**0.021**	0.007	**0.021**	0.007	**0.028**	0.007	**0.028**	0.007	**0.009**	0.003	**0.009**	0.003	**0.010**	0.005	**0.010**	0.005
LN(NET WORTH)	**0.474**	0.092	**0.477**	0.093	-0.162	0.109	-0.152	0.112	**-0.389**	0.113	**-0.373**	0.117	-0.052	0.054	-0.048	0.055	**-0.369**	0.073	**-0.368**	0.073
LN(NET WORTH)^2	**-0.019**	0.005	**-0.019**	0.005	**0.023**	0.005	**0.023**	0.006	**0.034**	0.006	**0.034**	0.006	**0.010**	0.003	**0.010**	0.003	**0.017**	0.003	**0.017**	0.003
Constant	-0.658	0.947	-0.677	0.941	-0.988	0.827	-1.100	0.836	0.204	0.835	0.077	0.847	-0.345	0.404	-0.395	0.406	3.669	0.627	3.639	0.633
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	11,231		11,231		11,571		11,571		11,571		11,571		11,439		11,439		3,857		3,857	
Log (pseudo)likel.	-5,942.6		-5,940.5		-6,331.9		-6,311.9		-4,309.4		-4,275.5		-6,327.8		-6,306.9					
(Pseudo) R2	0.0716		0.0720		0.1403		0.1430		0.1430		0.1497		0.1447		0.1475		0.1116		0.1123	

Table 5: Multivariate analysis of the financial decisions (with economic attitudes)

Table 5 shows the results of a regression analysis, with the financial decision variables as dependent variables (SAVED in Panel A, RISKY in Panel B, and RISKY/FINASSETS in Panel C), and the economic attitudes and control variables as independent variables. The coefficients on the control variables (AGE, AGE^2, MALE, PARTNER, CHILDREN, BAD HEALTH, EMPLOYED, SELF-EMPLOYED, RETIRED, UNIVERSITY, VOCATIONAL, PRE-UNIVERSITY, EDU_ACQUAINTANCES, LN(INCOME), LN(INCOME)^2, LN(NET WORTH), LN(NET WORTH)^2), the year dummies, and the constant are not reported. Standard errors are clustered per household. Coefficients which are significantly different from zero on the 10% level are in bold. All variables are defined in Table 1.

Panel A: Multivariate analysis SAVED (with economic attitudes)

	SAVED Probit													
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
THRIFT	**0.060**	0.029												
RISK AVERSION			**0.050**	0.011										
INTERNAL LOCUS					0.016	0.025								
LOW RESPONSIBILITY							**-0.057**	0.022						
DISTRUST									0.017	0.019				
BEQUEST MOTIVE											-0.001	0.011		
TIME HORIZON													**0.148**	0.015
Control variables	yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes	
N	3,216		10,419		2,429		2,429		5,055		11,207		11,299	
Log (pseudo)likel.	-1,779.3		-5,400.8		-1,352.5		-1,348.3		-2,569.8		-5,937.4		-5,916.8	
(Pseudo) R2	0.0735		0.0649		0.0812		0.0840		0.0827		0.0693		0.0825	

Panel B: Multivariate analysis RISKY (with economic attitudes)

	RISKY Probit													
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
THRIFT	**0.076**	0.033												
RISK AVERSION			**-0.090**	0.012										
INTERNAL LOCUS					0.046	0.028								
LOW RESPONSIBILITY							**-0.057**	0.023						
DISTRUST									**0.050**	0.021				
BEQUEST MOTIVE											**0.026**	0.012		
TIME HORIZON													**0.087**	0.015
Control variables	yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes	
N	3,216		10,420		2,572		2,571		5,185		11,207		11,300	
Log (pseudo)likel.	-1,823.6		-5,829.7		-1,435.2		-1,432.3		-2,766.5		-6,132.0		-6,142.6	
(Pseudo) R2	0.1286		0.1385		0.1400		0.1415		0.1636		0.1415		0.1457	

Table 5 (cont.): Multivariate analysis of the financial decisions (with economic attitudes)

Panel C: Multivariate analysis RISKY/FINASSETS (with economic attitudes)

	RISKY/FINASSETS Tobit													
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
THRIFT	**0.023**	0.014												
RISK AVERSION			**-0.049**	0.005										
INTERNAL LOCUS					**0.023**	0.013								
LOW RESPONSIBILITY							**-0.026**	0.010						
DISTRUST									0.015	0.010				
BEQUEST MOTIVE											**0.012**	0.006		
TIME HORIZON													**0.033**	0.007
Control variables	yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes	
N	3,206		10,314		2,564		2,563		5,111		11,081		11,168	
Log (pseudo)likel.	-1,782.0		-5,760.3		-1,418.2		-1,415.6		-2,845.0		-6,114.3		-6,133.3	
(Pseudo) R2	0.1320		0.1500		0.1445		0.1459		0.1635		0.1464		0.1491	

Table 6: Multivariate analysis of the financial decisions (IV approach)

Table 6 shows the results of a two-step IV regression analysis, with the financial decision variables as dependent variables. In each case, the economic attitude (THRIFT in Panel A, RISK AVERSION in Panel B, INTERNAL LOCUS in Panel C, LOW RESPONSIBILITY in Panel D, DISTRUST in Panel E, BEQUEST MOTIVE in Panel F, and TIME HORIZON in Panel G) is first instrumented by RELIGION, and then by all four denomination variables. In a third column, the economic attitude is instrumented by CATHOLIC and PROTESTANT, but here Evangelicals and "other" religious denominations are excluded from the data set. The results on a Wald test of exogeneity, the Amemiya-Lee-Newey (ALN) overidentification test, and the F-test on the excluded instruments in the first stage are reported at the bottom of each panel. The coefficients on the control variables (AGE, AGE^2, MALE, PARTNER, CHILDREN, BAD HEALTH, EMPLOYED, SELF-EMPLOYED, RETIRED, UNIVERSITY, VOCATIONAL, PRE-UNIVERSITY, EDU_ACQUAINTANCES, LN(INCOME), LN(INCOME)^2, LN(NET WORTH), LN(NET WORTH)^2), the year dummies, and the constant are not reported. Coefficients which are significantly different from zero within the 10% level are reported in bold.

Panel A: Multivariate analysis financial decisions with THRIFT instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
THRIFT	1.132	0.944	**1.027**	0.437	0.825	0.760	0.222	0.745	**0.718**	0.379	-0.281	0.690	0.128	0.339	**0.283**	0.160	-0.171	0.313
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**0.068**	0.037					**0.068**	0.037					**0.066**	0.037				
CATHOLIC			**0.074**	0.042	**0.076**	0.043			**0.074**	0.042	**0.076**	0.043			**0.071**	0.043	**0.073**	0.043
PROTESTANT			0.080	0.049	**0.082**	0.049			0.080	0.049	**0.082**	0.049			**0.081**	0.049	**0.083**	0.049
EVANGELICAL			**0.469**	0.150					**0.469**	0.150					**0.469**	0.150		
OTHER RELIGION			-0.088	0.075					-0.088	0.075					-0.090	0.075		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	3,216		3,216		2,964		3,216		3,216		2,964		3,206		3,206		2,954	
Wald test of exog.	2.06		7.27		1.29		0.04		3.43		0.32		0.10		3.04		0.47	
P-value Wald test	0.151		0.007		0.255		0.844		0.064		0.571		0.753		0.081		0.493	
ALN test			1.404		0.329				9.841		4.275				12.180		6.490	
P-value ALN test			0.705		0.567				0.020		0.039				0.007		0.011	
F-test first stage	3.46		4.02		2.16		3.46		4.02		2.16		3.25		3.98		2.05	
P-value F-test	0.063		0.003		0.116		0.063		0.003		0.116		0.072		0.003		0.129	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel B: Multivariate analysis financial decisions with RISK AVERSION instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RISK AVERSION	**0.618**	0.249	**0.367**	0.150	**0.393**	0.179	**-0.479**	0.221	-0.203	0.137	**-0.481**	0.177	**-0.192**	0.093	**-0.103**	0.058	**-0.215**	0.076
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**0.139**	0.033					**0.140**	0.033					**0.142**	0.034				
CATHOLIC			**0.205**	0.039	**0.203**	0.039			**0.205**	0.039	**0.204**	0.039			**0.210**	0.039	**0.207**	0.039
PROTESTANT			**0.086**	0.043	**0.085**	0.043			**0.086**	0.043	**0.086**	0.043			**0.087**	0.043	**0.087**	0.043
EVANGELICAL			**0.375**	0.149					**0.375**	0.149					**0.388**	0.150		
OTHER RELIGION			-0.094	0.077					-0.094	0.077					-0.102	0.078		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	10,349		10,349		9,713		10,350		10,350		9,714		10,249		10,249		9,621	
Wald test of exog.	7.53		5.18		4.40		3.75		0.78		5.89		2.70		1.05		5.83	
P-value Wald test	0.006		0.023		0.036		0.053		0.377		0.015		0.100		0.306		0.016	
ALN test			5.005		2.127				34.720		1.215				33.253		0.697	
P-value ALN test			0.171		0.145				0.000		0.270				0.000		0.404	
F-test first stage	17.36		9.50		13.79		17.49		9.57		13.91		17.90		9.97		14.26	
P-value F-test	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel C: Multivariate analysis financial decisions with INTERNAL LOCUS instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
INTERNAL LOCUS	-0.363	0.294	-0.221	0.168	-0.172	0.171	-0.008	0.277	0.152	0.163	**0.336**	0.173	-0.051	0.122	0.067	0.071	**0.161**	0.076
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**-0.209**	0.052					**-0.205**	0.050					**-0.206**	0.050				
CATHOLIC			-0.043	0.060	-0.046	0.059			-0.041	0.058	-0.045	0.057			-0.043	0.059	-0.047	0.058
PROTESTANT			**-0.433**	0.069	**-0.444**	0.068			**-0.426**	0.067	**-0.438**	0.066			**-0.427**	0.067	**-0.438**	0.066
EVANGELICAL			**-0.343**	0.208					**-0.436**	0.202					**-0.434**	0.202		
OTHER RELIGION			**-0.290**	0.105					**-0.263**	0.101					**-0.262**	0.101		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	2,429		2,429		2,232		2,572		2,572		2,363		2,564		2,564		2,355	
Wald test of exog.	1.87		2.16		1.34		0.04		0.48		2.45		0.37		0.49		3.07	
P-value Wald test	0.171		0.141		0.247		0.843		0.490		0.117		0.541		0.486		0.080	
ALN test			2.670		0.284				11.648		0.344				14.582		0.986	
P-value ALN test			0.445		0.594				0.009		0.558				0.002		0.321	
F-test first stage	16.26		11.76		23.00		16.65		12.26		23.79		16.72		12.17		23.65	
P-value F-test	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel D: Multivariate analysis financial decisions with LOW RESPONSIBILITY instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
LOW RESPONSIB.	-0.815	0.805	-0.407	0.256	-0.295	0.371	-0.029	0.637	-0.216	0.227	0.755	0.485	-0.126	0.297	-0.096	0.095	**0.359**	0.211
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	-0.092	0.061					-0.089	0.059					-0.086	0.059				
CATHOLIC			0.024	0.071	0.026	0.071			0.026	0.069	0.028	0.069			0.033	0.069	0.036	0.069
PROTESTANT			**-0.191**	0.082	**-0.186**	0.082			**-0.180**	0.079	**-0.176**	0.080			**-0.184**	0.079	**-0.179**	0.080
EVANGELICAL			**-0.692**	0.245					**-0.736**	0.237					**-0.736**	0.237		
OTHER RELIGION			-0.195	0.123					**-0.200**	0.119					**-0.197**	0.119		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	2,429		2,429		2,232		2,571		2,571		2,362		2,563		2,563		2,354	
Wald test of exog.	1.44		2.19		0.42		0.00		0.45		4.85		0.12		0.43		6.22	
P-value Wald test	0.230		0.139		0.516		0.965		0.501		0.028		0.731		0.513		0.013	
ALN test			1.481		0.572				11.031		0.002				13.608		0.047	
P-value ALN test			0.687		0.450				0.012		0.962				0.004		0.828	
F-test first stage	2.30		4.10		3.48		2.29		4.53		3.39		2.13		4.66		3.66	
P-value F-test	0.130		0.003		0.031		0.131		0.001		0.034		0.144		0.001		0.026	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel E: Multivariate analysis financial decisions with DISTRUST instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
DISTRUST	**-0.365**	0.157	**-0.305**	0.150	**-0.401**	0.161	**0.259**	0.146	0.184	0.141	**0.340**	**0.152**	**0.144**	0.068	0.103	0.065	**0.178**	0.071
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**-0.282**	0.035					**-0.283**	0.035					**-0.285**	0.035				
CATHOLIC			**-0.251**	0.041	**-0.253**	0.041			**-0.257**	0.040	**-0.259**	0.040			**-0.261**	0.041	**-0.263**	0.041
PROTESTANT			**-0.312**	0.045	**-0.313**	0.045			**-0.306**	0.044	**-0.307**	0.044			**-0.304**	0.045	**-0.304**	0.045
EVANGELICAL			-0.134	0.177					-0.135	0.177					-0.149	0.179		
OTHER RELIGION			**-0.383**	0.090					**-0.389**	0.088					**-0.385**	0.089		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	4,984		4,984		4,742		5,114		5,114		4,860		5,044		5,044		4,795	
Wald test of exog.	6.76		5.18		7.76		2.13		0.98		3.88		3.86		2.03		5.9	
P-value Wald test	0.009		0.023		0.005		0.145		0.323		0.049		0.050		0.154		0.015	
ALN test			3.728		0.117				27.316		4.285				33.338		8.323	
P-value ALN test			0.292		0.733				0.000		0.039				0.000		0.004	
F-test first stage	64.06		16.98		31.09		66.35		17.46		31.55		66.15		17.26		31.33	
P-value F-test	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel F: Multivariate analysis financial decisions with BEQUEST MOTIVE instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
BEQUEST MOTIVE	**0.282**	0.090	**0.231**	0.073	**0.220**	0.080	**-0.187**	0.087	-0.026	0.069	**-0.231**	0.080	**-0.082**	0.040	-0.012	0.031	**-0.113**	0.037
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**0.324**	0.032					**0.324**	0.032					**0.321**	0.032				
CATHOLIC			**0.416**	0.037	**0.416**	0.037			**0.416**	0.037	**0.416**	0.037			**0.414**	0.037	**0.414**	0.037
PROTESTANT			**0.172**	0.041	**0.170**	0.041			**0.172**	0.041	**0.170**	0.041			**0.167**	0.042	**0.166**	0.041
EVANGELICAL			**0.887**	0.144					**0.887**	0.144					**0.912**	0.145		
OTHER RELIGION			**0.282**	0.074					**0.282**	0.074					**0.269**	0.075		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	11,126		11,126		10,446		11,126		11,126		10,446		11,004		11,004		10,335	
Wald test of exog.	10.96		10.83		8.46		6.43		0.67		10.84		5.98		0.83		12.56	
P-value Wald test	0.001		0.001		0.004		0.011		0.412		0.001		0.014		0.362		0.000	
ALN test			3.989		2.722				41.426		1.126				42.391		0.639	
P-value ALN test			0.263		0.099				0.000		0.289				0.000		0.424	
F-test first stage	102.31		37.93		62.99		102.31		37.93		62.99		98.97		37.55		61.60	
P-value F-test	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 6 (cont.): Multivariate analysis of the financial decisions (IV approach)

Panel G: Multivariate analysis financial decisions with TIME HORIZON instrumented

	SAVED Probit (in 2nd stage)						RISKY Probit (in 2nd stage)						RISKY/FINASSETS Tobit (in 2nd stage)					
Second stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
TIME HORIZON	**1.215**	0.484	**0.667**	0.320	**1.047**	0.402	**-0.839**	0.455	**-1.525**	0.484	**-1.070**	0.444	**-0.369**	0.203	**-0.699**	0.219	**-0.514**	0.207
First stage	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
RELIGIOUS	**0.075**	0.022					**0.075**	0.022					**0.076**	0.022				
CATHOLIC			**0.097**	0.026	**0.097**	0.026			**0.097**	0.026	**0.096**	0.026			**0.095**	0.026	**0.095**	0.026
PROTESTANT			**0.066**	0.029	**0.065**	0.029			**0.066**	0.029	**0.065**	0.029			**0.069**	0.029	**0.068**	0.029
EVANGELICAL			-0.121	0.101					-0.121	0.101					-0.135	0.101		
OTHER RELIGION			0.030	0.051					0.030	0.051					0.035	0.052		
Control variables	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Year dummies	yes		yes		yes		yes		yes		yes		yes		yes		yes	
Constant	yes		yes		yes		yes		yes		yes		yes		yes		yes	
N	11,216		11,216		10,527		11,217		11,217		10,528		11,090		11,090		10,413	
Wald test of exog.	8.39		2.88		7.44		6.53		30.71		12.87		6.01		31.77		13.92	
P-value Wald test	0.004		0.090		0.006		0.011		0.000		0.000		0.014		0.000		0.000	
ALN test			8.320		0.560				4.914		0.034				4.847		0.023	
P-value ALN test			0.040		0.454				0.178		0.854				0.183		0.879	
F-test first stage	11.43		4.42		7.27		11.40		4.40		7.25		11.43		4.42		7.09	
P-value F-test	0.001		0.001		0.001		0.001		0.002		0.001		0.001		0.001		0.001	